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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,537	10/22/2004	Istvan Knoll	742111-159	6354
25570 7590 05/20/2008 ROBERTS MLOTKOWSKI SAFRAN & COLE, P.C. P. O. BOX 10064 MCLEAN, VA 22102-8064				
EXAMINER				
ALL, MOHAMMAD M				
ART UNIT		PAPER NUMBER		
3744				
NOTIFICATION DATE		DELIVERY MODE		
05/20/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/501,537

**Applicant(s)**

KNOLL, ISTVAN

**Examiner**

MOHAMMAD M. ALI

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 6, 8, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Svoboda. Svoboda discloses a submerged evaporator with plate heat exchanger 5 contained in a casing (see Fig. 1-2) and including one integrated plate heat exchanger 5, where the integrated plate heat exchanger 5 has at least one inlet connection 6 and at least one outlet connection 7 for a secondary refrigerant (water brine, see enclosed translation), where the plate heat exchanger is disposed at the bottom of the casing, where a primary refrigerant flow around the plate heat exchanger 5 (see Fig. 1 and 2), and where the uppermost part of the casing is as a liquid separator, wherein the integrated plate heat exchanger 5 is integrated with the evaporator and made with an outer contour that substantially follows the lower contour of the casing (see Fig. 2) and the liquid level of the primary refrigerant; wherein the longitudinal sides of the plate heat exchanger are closed for inflow and outflow of the primary refrigerant between the plates of the plate heat exchanger, and wherein the bottom of the plate heat exchanger is provided at least one opening through which the primary refrigerant flows around the plates of the plate heat exchanger; a suction manifold 3; the suction manifold 3 is disposed in the dry part of the casing. See Fig. 1-2 and the enclosed

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translation. Regarding new claim 12 as can be seen in Fig. 1-3 heat exchanger 5 substantially entirely fills the submerged part of the casing.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Svoboda. Svoboda discloses the invention substantially as claimed including guides plates disposed on the sides of the plate heat exchanger 5 except the guide plates are not separated from the plate heat exchanger but still serving the same purpose of the claimed invention; Svoboda does not disclose the specific angle of the guide grooves but as compares to the picture of the channels of the plate heat exchanger the guide grooves are at 90 degree angle in relation to the levels of the; Svoboda also does not disclose both the inlet and out let connection of the secondary refrigerant at upper part of the plate heat exchanger and two connections at the upper edge of the plates and one connection at the bottom of the plate. The different position of inlet and outlet of the secondary refrigerant does not make any substantial difference from the one inlet at the upper plat and one outlet in the lower plate as taught by Svoboda. Therefore, it is an obvious choice of an ordinary skill in the art to chose a guide plate either separated from the heat exchanger plate or combined with the heat

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exchanger plate to guide the refrigerant towards the bottom part of the heat exchanger and since there no criticality or unexpected result from it; similarly choosing the different configuration of the inlet and outlet of the secondary refrigerant is also an obvious design choice.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Svoboda in view of Ertinger (4,437,322). Svoboda discloses the invention substantially as claimed as stated above except the position of the condenser shaped second plate heat exchanger mounted in the dry part of the casing. Ertinger teaches the use of a second heat exchanger 17 disposed in side the dry part of the casing 14 in a submerged heat exchanger for the heat exchanging purposes. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the submerged evaporator of Svoboda in view of Ertinger such that the second heat exchanger or condense is dispose in dry part of the casing in order to make compact heat exchanger.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Svoboda in view of J. P. Rutledge (3,289,757). Svoboda discloses the invention substantially as

claimed as stated above except a cylindrical heat exchanger. Rutledge teaches the use of a cylindrical submerged heat exchanger 10. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the submerged evaporator of Svoboda in view of Rutledge such that the a cylindrical heat exchanger could be provided in order to perform heat exchange.

### ***Response to Arguments***

Applicant's arguments filed 03/11/08 have been fully considered but they are not persuasive. The Applicant argued that the Svoboda patent application is one of the prior art devices described in the specification of this application (see the paragraph spanning pages 1 and 2 and the first full paragraph of page 2) which has the structure and associated drawbacks that have been described by the present applicants. In particular, the submerged evaporator arrangement of the Svoboda patent application takes up a lot of space height-wise, has a reduced efficiency, and reduced capacity. Furthermore, as can be seen in the drawings of the present application, and as claimed, the applicants' plate heat exchanger is disposed *within the bottom end* of their casing while the drawings of the Svoboda patent application show their heat exchanger to be spaced well above the bottom end of his casing, this being necessary in the embodiment of Figs. 1 and 2 due to the fact that the entrance connecting piece 2 projects into the bottom end of Svoboda's casing and such is necessary in the embodiment of Figs. 3 and 4 of the Svoboda patent application due to the presence of the displacement bodies 9. Furthermore, the elongated end plates his plate heat exchanger preclude it from substantially following the lower contour of the bottom end of

the casing. In addition to these distinctions which are reflected in claim 1, the longitudinal guide plates extending from an area in the vicinity of the top side of the plate heat exchanger and downwards against the bottom end of the casing as recited in claim 3 and no reason to do so exists and to do so would interfere with the inflow from inlet 2 and the circulation around the end plates represented by the arrows in connection with both embodiments. The structures and drawbacks as mentioned above are not the claimed subject matter. the claims have been rejected on the basis of claim elements. The examiner acknowledges that the plate heat exchanger is disposed within the bottom end of the casing is one of the important claim element and the Examiner carefully examines and finds that Svoboda's plate heat exchanger (5) is also disposed within the bottom end of the casing (1). As can be seen from Fig. 1 – 4, the plate heat exchanger 5 is disposed well below the top part of the casing wherein it is much nearer to the bottom part of the casing. The Applicant's argument that the drawing of Svoboda patent application show their heat exchanger to be spaced well above the bottom does not correspond to the claim element. As the plate heat exchanger is disposed within the bottom end with respect to the top end of the casing. The end plate of plate heat exchanger as can be seen in Fig. 1 does not preclude it from substantially following the lower contour of the bottom end of the casing. The entrance connecting piece 2 does not projects into the bottom end as can be seen in Fig. 3. The elongated end plates does not constitute a substantial part of the plate heat exchanger but a fraction of a part of the bottom part of the plate heat exchanger and as such substantial bottom part of plate heat exchanger as shown in Fig. 1-2 is following the lower contour of the bottom

end of the casing. Regarding claim 5, though Ertinger does not relate to a submerged heat exchanger the teachings of Ertinger for using a second heat exchanger is important and on the basis of which and general concept of modifying or designing a heat exchanger fall within the real of common knowledge as obvious mechanical expedient and this is illustrated by Ertinger which teaches how to design a heat exchanger in combination of a second heat exchanger. Therefore, rejections are ok.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad M. Ali whose telephone number is 571-272-4806. The examiner can normally be reached on maxiflex.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4808. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad M Ali/  
Primary Examiner, Art Unit 3744